

REMARKS

Claims 1, 2 and 4-8 are pending. Claim 8 has been added to round out the scope of the claims.

Applicants thank the Examiner for taking the time to conduct a telephonic interview on December 21, 2004, in which the Examiner and applicants' representative discussed the Examiner's objection to the drawings in light of applicants' amendments to the claims. As applicants' representative proposed to the Examiner, claim 1 has been amended to recite determining, rather than accessing, both the data structure of a layout and the data structure of the configuration elements arranged in a plane of the layout. As agreed to by the Examiner, the amendments to claim 1 moot the Examiner's objections to the drawings. Accordingly, no amendments to the drawings are necessary.

The drawings were objected to under 37 CFR 1.83(a) as not showing every feature of the claimed invention. As discussed above, the amendments to claim 1 moot this objection, therefore, no amendments to the drawings are necessary.

Claims 2 and 4 were objected to due to various informalities. Applicants have amended claims 2 and 4 according to the Examiner's suggestions. This rejection is now moot.

Claims 1, 2 and 4-7 stand rejected under 35 USC 112, second paragraph, for failing to particularly claim the invention. Specifically, the Examiner cited the phrase "using the measure of a program procedure" in line 6 of claim 1 as creating confusion as to the meaning of the claim. Applicants have amended claim 1 such that it no longer recites this phrase. This rejection is now moot.

Claim 1 stands rejected under 35 USC 101 as an improper process claim. The Examiner notes that there is an insufficient antecedent basis in claim 1 for the recitation of "the coating to be etched off," and further asserts that the relation of the coating, the configuration elements, and the critical regions are not clear. The Examiner further notes that the phrase "determining of the critical

regions is defined by height and spacing of the coating to be etched off” is confusing, and therefore renders the claim vague and indefinite. Applicants have amended claim 1 to recite that “the determining of the critical regions is at least partially based upon a height and a spacing of a coating to be etched off,” thereby resolving the antecedent basis issue raised by the Examiner. Furthermore, claim 1 now more clearly recites that the determining of the critical regions is based on the height and spacing of the coating to be etched off. Claim 1 is no longer vague or indefinite. Applicants request that this rejection be withdrawn.

Claims 1, 2 and 4-7 stand rejected under 35 USC 102(e) over Ohnuma (U.S. Patent No. 6,370,441). Applicants traverse this rejection.

Applicants’ invention involves determining the data structure of a layout in a plane of the layout as well as the thickness and spacing of the coating to be etched off during fabrication. Based on the configuration of the elements and the coating to be etched off, critical regions are determined. These critical regions are regions where defects would be likely to occur during etching. Such defects could be the result of contamination of the imaging of a perforated mask or the development of a layout during production. These defects are more likely to occur when thick coatings are to be etched off of areas where elements are densely located due in part to extend periods of time that the coatings are subject to acids in the etching baths. Once the critical regions are determined, the critical regions are modified. As shown in Figures 1-3, the critical regions may be modified by changing the geometry of the layout such that the critical regions are expanded to a point where the creation of defects during fabrication is no longer a concern. By so adjusting the critical regions, the likelihood of defects occurring during fabrication is greatly reduced.

In contrast to applicants’ invention, Ohnuma does not disclose that “the determining of the critical regions is at least partially based upon a height and a spacing of a coating to be etched off,” as recited in claim 1. While the Examiner has cited col. 1, line 48, through col. 2, line 10, as disclosing this feature, the cited portion of Ohnuma does not disclose or suggest such a feature.

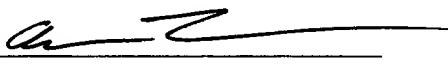
Instead, the cited portions of Ohnuma disclose and discuss a scattering effect known as a “proximity effect” that can limit the geometry of mask patterns, thus, Ohnuma is concerned only with the two dimensional geometry of the mask patterns. In contrast, claim 1 takes into account the height of the coating to be etched. By taking this height into consideration, applicants can more accurately identify and correct the geometry of etch critical regions. Neither the cited portion of Ohnuma, nor any other portion of Ohnuma, discloses determining critical regions based on a height of a coating to be etched off.

In light of the above amendments and remarks, claims 1, 2 and 4-8 are in condition for immediate allowance. Applicants solicit an early action allowing the pending claims.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 449122030700. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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